

Arizona CTE Career Preparation Standards Framework for CABINETMAKING

Prior to convening the Skill Standards Validation Committee, no Arizona standards for this program existed. The following standards were established by the committee.

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STANDARD A -- DEMONSTRATE BUSINESS PRACTICES FOR A WOODWORKING BUSINESS	
1	Estimate supplies, materials and labor costs
2	Develop a materials order from a cut list and plan
3	Explain product quality standards
4	Manage customer relations
STANDARD B -- SAFE WOOD PRODUCTS MANUFACTURING	
1	Work safely in a woodworking shop
2	Maintain safe work attire and appearance
3	Wear appropriate personal protective equipment (e.g., eye protection, ear protection, impact hat, etc.)
4	Use equipment safety features correctly
5	Use proper lifting techniques
6	Examine health-related problems that may result from exposure to hazardous materials in the woodworking shop
7	Examine principles and methods of dust collection
8	Adhere to government regulations (e.g., OSHA, EPA, DNR) in the woodworking shop
9	Adhere to lockout / tagout rules and procedures
10	Handle, use and store materials according to MSDS sheets
11	Apply fire safety rules and procedures

STANDARD C -- PERFORMING BASIC CABINETMAKING SKILLS

These technical knowledge and skill standards were validated by a Skill Standards Validation Committee on October 25, 2007, and used in the adaptation, adoption, and development of test items for pilot testing in Spring 2008.

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1	Solve woodworking problems using basic math
2	Solve manufacturing and construction word problems
3	Calculate linear feet, square feet, and board feet
4	Tally accurately
5	Measure accurately
6	Lay out straight and angled cuts accurately
7	Convert standard and metric measurements
8	Check stock and/or assemblies for squareness.
9	Determine levelness and plumbness of surfaces, using a level.
10	Handle/store materials.
11	Recognize materials.
12	Maintain/make minor adjustments to hand tools.
STANDARD D -- PRACTICE SAFE AND EFFECTIVE USE OF HAND AND PORTABLE POWER TOOLS	
1	Use steel rules/tapes, marking gauges and T-bevels correctly
2	Utilize planes and cabinet scrapers to smooth surfaces
3	Utilize wood chisels to notch or mortise stock
4	Drive and set nails and screws
5	Fasten materials using a pneumatic stapler or nailer
6	Utilize a circular saw to make straight, beveled and compound angle cuts

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7	Utilize a sabre/jig saw to plunge/cut curves
8	Drill holes with a portable power drill
9	Utilize a power drill to bore holes to a specified depth
10	Create pocket screwed joints using a drill with jig
11	Utilize a router to shape edges and cut a groove, dado and rabbet
12	Utilize a router with a dovetail jig
13	Utilize plate and biscuit joiners for square and angled joints
14	Utilize a sander for roughing and finishing
15	Clean and maintain hand and portable power tools
16	Utilize a belt sander and grinder to scribe cut a product
STANDARD E -- PRACTICE SAFE AND EFFECTIVE USE OF STATIONARY WOODWORKING MACHINES	
1	Utilize a table saw to make rip, cross, miter, bevel and groove cuts
2	Change and set up blades on a table saw
3	Utilize a radial saw to make cross, miter and compound angle cuts
4	Change blade and adjust squareness of a radial saw
5	Cut vertical with a panel saw
6	Change blade on a panel saw
7	Cut arcs and circles with a band saw
8	Set up, adjust and bore using a drill press

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9	Utilize a jointer to square, bevel, chamfer, or flatten stock
10	Utilize a router in a router table
11	Utilize a surfacer to plane and smooth surfaces
12	Create edges and curves utilizing a shaper with a fence, collar or dead stop
13	Utilize a power feed unit with a table saw, shaper or jointer
14	Utilize a bench morticer
15	Finish edges using an edge bander
16	Set up and utilize a lathe for woodturning
STANDARD F -- EXAMINE COMPUTERS AND COMPUTER-CONTROLLED EQUIPMENT IN WOODWORKING	
1	Find information on (Computer Aided Drafting and Design) CADD drawings
2	Investigate (Computer Aided Manufacturing) CAM software for programming Computer Numerical Control (CNC) manufacturing equipment
3	Explore CNC equipment and equipment operations
4	Demonstrate CNC equipment operation (actual or simulated)
5	Enter CNC programs and run a machine to produce a part
6	Explore the application of 3-dimensional technology in woodworking

STANDARD G -- INTERPRET PLANS AND PRINTS	
1	Extract information from plans and specifications
2	Read and interpret a floorplan

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3	Verify design plans with field measurements
4	Interpret a cut sheet
5	Create a material list
6	Specify wood stock for compatibility of grain and color
7	Construct and install wood products from plans
STANDARD H -- CUT AND SHAPE STOCK	
1	Mill rough lumber to create S4S stock
2	Cut panelized materials to size and shape
3	Manufacture woodturnings
4	Manufacture wood moldings
5	Re-saw wood parts when required
STANDARD I -- USE WOOD VENEERS	
1	Cut and edge veneer for joining
2	Join veneer sheets with glue and tape
3	Use and machine wood panel products (i.e., particle board, MDF)
4	Apply veneer with appropriate adhesive using a platen or vacuum press
5	Trim excess veneer
6	Prepare veneer surface for finishing

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STANDARD J -- DEMONSTRATE PRINCIPLES OF JOINERY	
1	Explain the purpose and appropriate applications of common joints
2	Layout and make butt joints using dowels, screws, biscuits, and/or pocket screws
3	Layout and make a dado joint
4	Layout and make a rabbet joint
5	Layout and make a half-lap joint
6	Layout and make a miter joint
7	Layout and make a tongue and groove joint
8	Layout and make a mortise and tenon joint
9	Layout and make a dovetail joint
10	Layout and make a finger joint
STANDARD K -- ASSEMBLE WOOD PRODUCTS USING FASTENERS, ADHESIVES AND HARDWARE	
1	Explain the purpose and appropriate applications of common fasteners
2	Use various fasteners and Ready To Assemble (RTA) connectors in manufacturing a wood product
3	Explain the purpose and appropriate applications of common woodworking adhesives
4	Use adhesives appropriate to the application
5	Apply clamping devices.
6	Assemble drawer components.

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7	Use fasteners and levelers to install products
8	Fasten stock with metal fasteners (for example, nails, screws, staples, and other mechanical fasteners).
9	Glue boards edge to edge.
10	Construct case/box.
11	Assemble panel doors.
12	Attach molding/trim.
13	Fasten top to casework.
14	Intall cabinet hardware.
15	Reinforce joints with block.
STANDARD L -- APPLY WOOD VENEERS AND PLASTIC LAMINATES	
1	Cut laminates with appropriate saw blades and router bits
2	Seam two pieces of laminate
3	Apply adhesive.
4	Apply edge banding.
5	Apply laminate to core.
6	Apply wood edges.
7	Cut plastic to size.
8	Fit plastic laminate joints.
9	Trim edges.

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10	Machine/fabricate solid surface materials.
STANDARD M -- DEMONSTRATE FINISHING MATERIALS AND PROCESSES	
1	Explain the purpose and appropriate applications of various types of finishes and finishing processes
2	Follow a finish schedule
3	Apply filler to a wood surface
4	Apply a wash coat to a wood surface
5	Apply a seal coat to a wood surface
6	Select and use appropriate abrasive types and grit sizes
7	Stain a wood surface
8	Apply clear coating finishes to wood surfaces
9	Apply pigmented finishes to wood surfaces
10	Apply safe and approved (OSHA, EPA, DNR) methods for cleaning finishing tools
11	Remove excess glue.
12	Swell dents.
13	Repair blemishes/touch up finishes.
14	Select finishing materials for compatibility.